

The Role of Cash Management Policies in Corporation Governace

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Abstract

Financial management in companies assumed a cash flow management as one of the most important instruments to increase the company's value. The present study has as main objective to carry out a literature review regarding cash flow management policy and to withdraw the main aspects of managing in order to create an objective image upon this indicator. The contribution to current state of research is providing a literature review study, focused on a comparative approach. The results proved that there is no generally accepted definition and cash flow management method, which can be widely used by corporation for achieving the best result of financial performance. The study concluded that raising the quality of knowledge and skills in managing cash flows can be considered as a core ingredient for any business survival and developmental growth.

Keywords: Cash flow; Cash flow management models; Cash flow policy; Cash requirements; Optimal amount of cash flow

Introduction and Purpose of the Study

Maximization of enterprise owner's wealth is the basic financial aim in management. Cash management must contribute to the realization of this aim. This policy is one of the most important areas in finance literature. In a fast moving and transforming reality the financial strategy of any company cannot be set without taking into account the corporation's cash flow policies (Fisher, 1998; Quinn, 2011).¹ Many researchers have studied why this policy has a strong impact of corporation financial performance. Since 70s of the

¹ Fisher, L. M. (1998). Inside Dell Computer Corporation: Managing working capital. *Strategy + Business*, accessed

June 7, 2012, from [mhttp://www.strategy-business.com/article/9571?gko=d8c29](http://www.strategy-business.com/article/9571?gko=d8c29). Quinn, M. (2011). Forget about profit, cash flow is king. *Wall Street Journal*, accessed July 15, 2012, from

<http://online.wsj.com/article/SB10001424052970204524604576609740825745286.html>

last century, a different academic public have published several papers dealing with cash flow and methodology of cash flow evaluation. Bankruptcy of many companies was the result of inadequate analysis and calculation of cash flow, illiquidity and insolvency and inappropriate cash flow management models.

Accounts receivable, accounts payable and inventory are all components of working capital that companies can streamline to access cash trapped on their balance sheets (Richards & Laughlin, 1980; Stewart, 1995)². Proper management of this components can be represented by effective cash management. This issue is of critical importance for both theory building and managerial decision-making with regard to finance management. Cash flow is essential because it is the main indicator of business' financial health. The function of cash management has the responsibility to mobilize, control and plan the financial resources of companies (Srinivasan & Kim, 1985)³. Cash management is something all the companies need to consider. Cash levels must be maintained so as to optimize the balance between costs of holding cash and the costs of insufficient cash. The type and the size of these costs are partly specific to the financial strategy of the firm.

The key to increasing income, reducing debt and creating emergency funds is proper cash flow management, that is a very broad subject and includes a lot of factors, that need to be discussed. There are some different way for improving corporation cash flow strategy by manipulating their cash flows in financial management theory (Farris & Hutchinson 2002, 2003; Christopher & Ryals, 1999; Moss & Stine, 1993; Stewart, 1995)⁴. Rare is the business that has not suffered a cash flow problem. All of this practically leads to the conclusion that not enough attention is paid to cash management by modern companies.

The purpose of this research was to review the academic literature regarding cash flow strategy, and to withdraw the main pro's and con's in order to create an objective image upon an appropriate cash flow management for corporation.

² Richards, V. D. & Laughlin, E. J. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32-38.

³ Srinivasan, V. & Kim, Y. H. (1986). Deterministic Cash Flow Management: State of Art and Research Directions. *OMEGA – International Journal of Management Sciences*, 14.

⁴ Farris, M. T. II & Hutchison, P. D. (2002). Cash-to-cash: The new supply chain management metric. *International*

Journal of Physical Distribution and Logistics Management, 32(3/4). Christopher, M. &

Ryals, L. (1999). Supply chain strategy: Its impact on shareholder value. *International Journal of Logistics Management*, 10(1). Moss, J. D. & Stine, B. (1993). Cash conversion

cycle and firm size: A study of retail firms. *Managerial Finance*,

19(8). Stewart, G. (1995). Supply chain performance benchmarking study reveals keys to

supply chain excellence. *Logistics Information Management*, 8(2).

International studies

The recent financial crisis has put cash and its management back in the spotlight, forcing financial managers to focus their efforts on ways to improve their companies' cash management policy. Cash flow indicators become a popular measure of corporation performance among practitioners. Some investors prefer cash flow indicators since they believe it represents a better picture of the sustainability and wealth.

Cash flow management is as critical as a profitable business model to the success of a business. Companies suffering from cash flow problems have no margin of safety in case of unanticipated expenses. They also suffer in finding the funds for as innovation as well expansion. Finally, it is very important issues that poor cash flow makes it difficult to hire and retain good employees.⁵ Failure to perceive cash flow management as an ongoing discipline that requires a collaborative effort can ultimately lead to business failure (D Rigby, 2009; Fisher, 1998; Quinn, 2011)⁶. It is, therefore, important to realize that proper cash flow management requires to review relevant theoretical literature.

The basics of cash management and its techniques have been discussed in academics literature (Miller & Orr, 1966; Stone, 1972; Baumol, 1952, Parkinson, 1983, etc)⁷. The basic terms of cash management, their definitions, models and techniques have been present in the business literature for so long, that they have become an integral part of classical corporate finance textbooks (for example Brigham & Daves, 1999, Fabozzi & Petersen, 2003, Allman-Ward & Sagner, 2003, etc.).⁸ Early study of the costs and benefits of holding cash was studied by Keynes (1936), which

⁵ Davidson, Jeffrey P., and Charles W. Dean. *Cash Traps: Small Business Secrets for Reducing Costs and Improving Cash Flow*. New York: Wiley, 1992.

⁶ D Rigby. *Winning in Turbulence*, Harvard Business press 2009.

⁷ Miller, M. H., & Orr, D. (1966). A model of the demand for money by firms. *Quarterly Journal of Economics*, 80(3), 413–415; Stone, B. K., & Wood, R. A. (1977). Daily Cash Forecasting: A Simple Method for Implementing the Distribution Approach. *Financial Management*, 6(3); Parkinson, K. L., & Kallberg, J. G. (1993). *Corporate liquidity: A guide to managing working capital*. Homewood: Business One Irwin; Brigham, E. F., & Daves, P. R. (2004). *Intermediate Financial Management* (8th ed.). Mason: Thomson South-Western;

⁸ Brigham, E. F., Gapenski, C. G. & Daves, P. R. (1999). *Intermediate Financial Management* (6th ed.). Orlando: The Dryden Press. Fabozzi, F. J. and Markowitz, H. M. (2006): *The Theory and Practice of Investment*. London: Wiley; Allman-Ward M., & Sagner J. (2003). *Essentials of managing corporate cash*. New York: John Wiley & Sons, Inc.

suggested that firm's cash management policy should depend on the access to external financing.⁹

Many academic research proves the strong link between an appropriate cash flows management and financial performance (Ebben & Johnson, 2011; Farris & Hutchinson 2003; Quinn, M. 2011).¹⁰

Financial managers need to know the current financial position of the firm (problem of financial performance), continuing with problems and control functions.¹¹ In the most cases, suppliers are interested in the firm's liquidity because their rights are generally on a short term and the company's capability to pay is best reflected by the liquidity indicators.¹² Cash flow information makes clear for financial statement users in obtaining the relevant information concerning the use of resources of virtually the entire financial resources. (Ross, et al 2007)¹³.

No financial discipline is more important--and more misunderstood as cash flow management.¹⁴ There are opinions stating that cash management deals with managing a company's short term funds in order to support and maintain its ongoing activities, mobilize funds and optimize liquidity (Allman-Ward & Sagner, 2003).¹⁵

The primary goal of cash flow management is to minimize the amount of cash a firm must hold in order to carry out its normal business activities on one side, and on the other, to obtain sufficient cash funds that

⁹ JM Keynes. The General Theory of Employment Interest and Money. MacMillan. 1936. <http://cas.umkc.edu/economics/people/facultypages/kregel/courses/econ645/winter2011/generaltheory.pdf>

¹⁰ Ebben, J. J. & Johnson, A. C. (2011) Cash conversion cycle management in small firms: Relationships with liquidity, invested capital, and firm performance. *Journal of Small Business and Entrepreneurship*, 24(3). Farris, M. T. II & Hutchison, P. D. (2003). Measuring cash-to-cash performance. *The International Journal of Logistics Management*, 14(2). Quinn, M. (2011). Forget about profit, cash flow is king. *Wall Street Journal*, accessed July 15, 2012, from <http://online.wsj.com/article/SB10001424052970204524604576609740825745286.html>

¹¹ Bodie, Z Kane, A. and Marcus, J. (2004): Essential of Investments. 5th Edition. New York, Irwin

¹² Fabozzi, F. J. and Markowitz, H. M. (2006): The Theory and Practice of Investment. London: Wiley

¹³ Ross, S. Westerfield, R. and Jordan, B. (2012): Fundamental of Corporate Finance. New York: Pearson – Patience.

¹⁴ The Art of Cash Management. inc.com.magazine. <http://www.inc.com/magazine/19981001/1019.html>

¹⁵ Allman-Ward M., & Sagner J. (2003). *Essentials of managing corporate cash*. New York: John Wiley & Sons, Inc.

would enable to meet unforeseen cash needs in accordance with corporate strategy (Brigham & Daves, 2004; D. Masson and M. Krawczyk, 2010)¹⁶.

Brealey and Myers (2011) suggest four reasons for the maintenance of cash balance¹⁷: 1. Transactions – funds held in cash to fulfill commitments because of the temporal mismatch between the outputs (payments) and inflows (receipts) of money; 2. Precautionary – funds held in cash as maintaining a safety reserve for contingencies; 3. Speculation – funds held in cash to take advantage of opportunities to obtain discounts or favorable applications; 4. Bank reciprocity – funds held in current accounts to meet the requirements of some banks as compensation.

Graham and Harvey (2001) proved that management value flexibility over other measures in their financial management when making decisions.¹⁸ The use of models to support decision making becomes relevant, since they can achieve a comprehensive view and optimization, which can hardly be acquired without the use of methodologies for this purpose (see Table 1. Cash Flow Management Models: A Literature Review).

¹⁶ Brigham, E. F., & Daves, P. R. (2004). *Intermediate Financial Management* (8th ed.). Mason: Thomson South-Western; D. Masson and M. Krawczyk, *Essentials of Treasury Management*, Third Edition. Association of Financial Professionals, 2010

¹⁷ Brealey, Richard A. *Principles of corporate finance* / Richard A. Brealey, Stewart C. Myers, Franklin Allen.—10th ed. Published by McGraw-Hill/Irwin, a business unit of The McGraw-Hill Companies 2011;

¹⁸ Graham, J. & Harvey, C. The theory and practice of Corporate Finance: evidence from the field. *Journal of Financial Economics*, 60 (Nos. 2-3, May), 2001.

Authors	Research summary
Baumol (1952)	Proposes that the available cash balance is a commodity inventory
Tobin (1956)	Adjusts the Baumol model, so the number of transactions becomes a positive integer value
Archer (1956)	Suggest that cash balance should be based on the need for transactions and precautionary balance
Beranec (1963)	Suggest that cash balance should be based on certain cash receipts and expenditures
Miller and Orr (1966)	Analyze the cash balance as having a random variable with an irregular fluctuation and proposed a stochastic model for managing the cash balance
Stone (1972)	The Stone model is somewhat similar to the Miller-Or model so far as it uses control limits. However, it incorporation look-ahead forecast of cash flows when an upper or lower limit it hit to take account the possibility that surplus or deficit a cash may naturally correct itself.
Whalen (1966)	Presents a model based on the concept of inventory considering the cost of illiquidity, the opportunity cost of maintaining a precautionary cash balance and the average volume and variability of inflows and outflows
Lockyer (1973)	Suggest that cash balance should be based on existence of credit facilities.
Daellenbach (1974)	Concludes that in cases where cash flows are non-stationary series, the optimization models cannot make significance gains if the transfer costs are low
Gibbs (1976)	Suggest that cash balance should be based on the risk of cash outs
Gregory (1976)	Presents a survey by the models until the mid-1970s focused on variants of the Miller and Orr
Tapiero and Zuckerman (1980)	Present a stochastic model based on the premise that cash inflows and outflows have random behavior
Milbourne (1983)	Presents a model separating the transfer costs into two categories, in other words, cost for currency units to adjust the cash balance up and cash balance down
Srinivasan and Kim (1986)	Present the principles of deterministic models until the mid- 1980s
Smith (1986)	Develops a stochastic dynamic model, considering the cash flow as a diffuse process
Ogden and Sundaram (1998)	Propose the utilization of a credit line if the firm gets a cash deficit considering an interest rate associated with this credit line and the assumptions of Baumol
Pacheco et al. (2000)	Develop a genetic algorithm to determine investments in financial products available on the market based on the projected cash flow
Hinderer and Waldmann (2001)	Propose the utilization of Markov chains in the problem
Barbosa and Pimentel (2001)	Develop and applied a model in civil construction projects very successfully
Baccarin (2002)	Proposes a modeling variation that changes the focus of the optimization problem
Premachandra (2004)	Shows a model considering the assumptions of normal distribution of net cash flows and that the fixed transfer costs are relaxed in order to obtain a model closer to reality
Volosov et al. (2005)	Develop a stochastic programming model in two states, based on scenario trees, for the problem of cash balance Computational Optimization and Applications

Yao et al. (2006)	Show a single-period model, considering the demand for money according to fuzzy logic concepts, for the problem of cash balance
Gormley and Meade (2007)	Propose the utilization of dynamic policy for cash balance that minimizes transfer costs when cash flows are not independent or identically distributed in a general cost structure
Liu and Xin (2008)	Propose an adaptive algorithm with characteristics of changing the management policies at the beginning of each period to know the upper and lower demands for money
Baccarin (2009)	Presents a standard n-dimensional Wiener process using the impulse control method, for the problem of cash balance
Mierzejewski (2010)	Develops a stochastic model considering the premise of the demand for cash balance with normal distribution and applied the value at risk (VaR)
Melo and Bilich (2011)	Propose the use of dynamic programming to minimize the cost of cash, considering the cost de rupture cash

Table 1. Cash Flow Management Models: A Literature Review¹⁹.

In order to manage its cash balance, the company can employ a mathematical model. There are two main cash management models that is the Baumol –Allouis –Tobin (BAT) model (Tobin, 2006). This cash management model can be used to calculate the optimal amount of securities to be liquidated whenever the refer demands cash. Similar to the Baumol (1952) model, the purpose of the Miller-Orr model is to minimize the loss of possible interest earned by holding cash balances while taking into account the risk of having deficient balance of cash flow. Another cash management model is the Miller-Orr stochastic model which assists the company to meet its cash requirements at the lowest possible cost by placing upper and lower limits on cash balances. This model assumes that the firm sells securities when a lower limit of cash is attained. Marketable securities are purchased when the upper limit of cash is reached for reducing cash. When there is no attempt to manage cash balances clearly the cash balance is likely to ‘meander’ upwards or downwards (Tobin, 2006). It should be admitted that this theoretical model does not represents how the company can manage its cash balances. Recall that the Miller-Orr model requires selling and buying marketable securities. Whalen (2004) set outs that the cash balances reaches a lower limit, the firm sells securities to bring the balance back to the return point.

There is very important to prepare an appropriate cash flow forecast, because using information about future cash inflows and outflows, financial managers have possibility to apply, for example, the Baumol model or the Beranek model. If corporations anticipate that cash inflows are greater than outflows, they are able to use the Beranek model (W. Beranek 1963 also: F. C. Scherr 1989) to resolve cash flow management. On the other side, if it is

¹⁹ M. B. da Costa Moraes, M. Nagano and V. A. Sobreiro. Stochastic Cash Flow Management Models: A Literature Review Since the 1980s. Published in Decision Models in Engineering & Management; 2015

predicted that cash outflows are greater than inflows they use Baumol model (Baumol 1952). When forecast long-term cash flows are impossible, for a period longer than approximately 14 days, they are able to use the Stone model (B. Stone 1972; T. W. Miller 1996) to determine cash flow management. However, when we cannot predict future cash inflows and outflows at all, the Miller-Orr model can be used to resolve cash flow management.²⁰ It is important admitted, that studies on developing models for managing the cash flow since 2000 mostly are presented in journals of the areas of computing and management sciences. All of these models focus on the efficiency of optimization, but do not study all aspects of managing cash.

The research proved that there is no generally accepted definition and cash flow management method, which can be widely used by corporation for achieving the best result of financial performance. The study concluded that raising the quality of knowledge and skills in managing cash flows can be considered as a core ingredient for any business survival and developmental growth

Conclusion

Widespread opinion among scholars and practitioners is that a firm's future success and survival ultimately depend on an appropriate cash management policy. Cash management policy deals with managing a company's short term resources in order to support and maintain its ongoing activities, mobilize funds and optimize liquidity. The principal goal of this policy is to allocate cash resources as efficiently as possible and in accordance with corporate strategy.

All financial managers are expected to demonstrate sufficient knowledge in cash management techniques such as cash budgets and cash mathematical models in order to assist a company to manage its cash properly. It is widely known that financial theorists have developed mathematical models (Baumol, 1952; Tobin 1956, Miller & Orr, 1966; Stone, 1972, Srinivasan & Kim 1986 and et al) to help firms find an optimal "target" cash balance, between the minimum and maximum limits, that balances liquidity and profitability concerns..

The study highlighted that, without proper cash flow management policies and procedures in place, the business is less likely to be profitable and sustainable for the future. Cash management is vitally important as it is essential to the health of a business.

²⁰ Michalski G. Target Liquid Balances and Value of the Firm. Zagreb International Review of Economics & Business, Vol. 12, No. 1, pp. 1-18, 2009

As a conclusion, we can admitted that although the literature contains numerous studies that examine the rare is the business that has not suffered a cash flow problem. The key to increasing income, reducing debt and creating emergency funds is proper cash flow management policy. The results proved that there is no generally accepted cash budgets and cash computing models, which can be widely used by corporation for achieving the best result of financial performance. The study concluded that raising the quality of knowledge and skills in managing cash flows can be considered as a core ingredient for any business survival and developmental growth.

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